WE CLAIM:

1. A method of fabricating a fluid ejection device, the method comprising the steps of:

forming a plurality of micro-electromechanical fluid ejection devices on a substrate that incorporates drive circuitry such that each device includes a micro-electromechanical actuator that is in electrical contact with the drive circuitry and a fluid ejection member that is positioned on the actuator;

forming a plurality of nozzle chamber walls on the substrate to define nozzle chambers such that each fluid ejection member is operatively positioned with respect to a respective nozzle chamber to eject fluid from the nozzle chamber on receipt of an electrical signal from the drive circuitry by the micro-electromechanical actuator to displace the fluid ejection member;

depositing a layer of sacrificial material on the substrate to cover the nozzle chamber walls;

etching the layer of sacrificial material to define deposition zones for a structural material layer that is to define roof walls of the nozzle chambers and nozzle rims extending from the roof walls to define ink ejection ports in fluid communication with respective nozzle chambers;

depositing the layer of structural material on the etched layer of sacrificial material to cover the layer of sacrificial material thereby defining the roof walls, the nozzle rims and closing the ink ejection ports, such that the layer of structural material is conformal to the layer of sacrificial material;

planarizing the layer of structural material to open the ink ejection ports; and

removing the sacrificial material.

2. A method as claimed in claim 1, in which the step of planarizing the layer of structural material is a step of chemical mechanical planarization.

3. A method as claimed in claim 1, which includes the steps of etching the layer of sacrificial material to define deposition zones for ink spread prevention rims interposed between the nozzle rims and depositing the layer of structural material such that the layer of structural material defines the ink spread prevention rims interposed between the nozzle rims.

4. A method as claimed in claim 1, in which the step of forming each micro-electromechanical fluid ejection device includes the steps of depositing a sacrificial material layer on the substrate, etching the sacrificial material layer and the substrate to define a deposition zone for a heater layer and a vias for the heater layer, depositing a layer of a conductive material on the substrate to define the heater layer in contact with the drive circuitry at the vias, etching the heater layer to define a heating circuit and depositing a layer of a flexible, dielectric material on the heater layer.

5. A method as claimed in claim 4, in which at least one of the steps of depositing the heater layer and depositing the layer of dielectric material includes the step of depositing material for the ink ejection member, the method including the step of etching said at least one of the heater and dielectric layers to define the ink ejection members.

6. A method as claimed in claim 5, in which the sacrificial material layer and the layer of dielectric material are deposited and etched so that each micro-electromechanical actuator is an actuator arm that is anchored at one end to the substrate and connected, at an opposite end to the ink ejection member.